Date: Wed, 8 Sep 93 04:30:30 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V93 #36
To: Ham-Homebrew

Ham-Homebrew Digest   Wed, 8 Sep 93   Volume 93 : Issue   36

Today's Topics:

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

Date: Tue, 7 Sep 93 23:49:33 GMT
From: mercury.hsi.com!a3bee2!cyphyn!randy@uunet.uu.net
Subject: Frequency interval
To: ham-homebrew@ucsd.edu

9203117@rkw-lan.cs.up.ac.za (WESSELS T) writes:
: Is there some way of changing the frequency receiving interval on a FM
: receiver. I have electronic knowledge and would appreciate references or
: direct instructions.

Freq rec interval? do you mean the freq steps like 200kc , that it 'hops'?

If so...thats all in the cpu that controls the set...all in Prom...thus, you'd
need build an outboard local oscillator, pll it and control it by - probably
your computer (easier to do) to make freq resolution finer.

In essence you need an osc that will tune from 77mc to 99 mc (I assume we
are talking about 88-108 fm?)
Using an osc running at 1/3 the freq, it'll be in range of cheap plls with
a 5kc step rate (this boils down now to a 15kc step rate when done)
 You multiply the freq to get that 77-99mc, for the HFO.

You are really going to need a couple books on pll's and how superhets work, and sence there are SO amny...may I recommend ARRL Handbook?---1988 -1993 will do (all ahve more or less same thing)... that'll get you started.

--
Randy KA1UNW If you get a shock while
servicing your equipment, "Works for me!"
DON'T JUMP! -Peter Keyes
You might break an expensive tube!

Date: Tue, 7 Sep 1993 21:54:55 GMT
From: mentor.cc.purdue.edu!sage.cc.purdue.edu!aj@purdue.edu
Subject: Why are folded dipoles 300 ohms?
To: ham-homebrew@ucsd.edu

Could it be that the system was designed to work with an >array of arrays<? if I recall correctly, a 50-ohm feed can feed 4-300 ohm dipoles, but I don't know what connections were necessary to do the trick. I think the 50-ohm line was run straight, with the 300-ohm dipoles put across its conductors in parallel at 1/2 wave distances.

It's been a while, but this was for a commercial 400MHz band repeater antenna. It supposedly worked okay.

So, this means you may have a 50-ohm harness with 4 taps, which turns into 16 actual antennas. What a phasing nightmare!

: John Dormer
: aj@sage.cc.purdue.edu

Date: 8 Sep 93 04:55:13 GMT
From: ogicse!emory!kd4nc!ke4zv!gary@network.ucsd.edu
Subject: Why are folded dipoles 300 ohms?
To: ham-homebrew@ucsd.edu

In article <millar.44.0@mervax.sanders.lockheed.com>
millar@mervax.sanders.lockheed.com (Jeffrey R. Millar) writes:
>We are trying to make an eight element repeater antenna for 447 MHz based on
>a Cushcraft phasing harness we found surplus. We have just the harness and
>not the antennas or mounting hardware.
>

>Analysis of the phasing harness shows that each of the antennas needs to
>present 50 ohms for the total to look like 50 ohms for the whole array. We
>confirmed this with by placing 8 47-50 ohm 1/4 watt film resistors on the
>antenna connection points and looking at the reflected power. The harness
>exhibited a beautiful match at 440 MHz.
>
>Looking at existing antennas of similar design, we note that each of the
>elements appears to be a folded dipole. We couldn't find any matching
>components.
>
>The problem is that folded dipoles present an impedance of 300 ohms at the
>feed point. The phasing harness just won't work with that load.
>
>Any helpful suggestions are welcome, thanks in advance

Jeff, the Cushcraft 4 Pole antenna uses gamma matched dipoles as
elements, not the folded dipoles used by DB Products. This antenna
is a horrible kludge. We installed one at our repeater. It's performance
was bad, so we added a second 4 Pole below it and phased them together.
That was better, but our coverage was still poor. Finally we bought a
Comet 440 repeater antenna and our problems were solved. Best $120
we ever spent.

Gary
--

Gary Coffman KE4ZV |"If 10% is good enough | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | for Jesus, it's good | uunet!rsiatl!ke4zv!gary
534 Shannon Way | enough for Uncle Sam."| emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | -Ray Stevens |

End of Ham-Homebrew Digest V93 #36
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